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DULANEY, KATHLEEN YUAN				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/673,322

Applicant(s)

ES, CHRISTOPHER VAN

Examiner

KATHLEEN S. YUAN

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 5-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 5-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2010 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-945)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

The response received on 12/27/2010 has been placed in the file and was considered by the examiner. An action on the merit follows.

Response to Amendment

1. The amendments filed on 2010 December 27 have been fully considered.

Response to these amendments is provided below.

Summary of Amendment/ Arguments and Examiner's Response:

2. *The applicant argues from pages 7-8 that Abrahams discloses a time period between the request of a fingerprint and the entry of the fingerprint, not the time entry of successive fingerprints "a predetermined time period of one another."*
3. The examiner disagrees. As disclosed in col. 6, lines 4-13, as the applicant points out, the time out period is between steps 354-356 of fig. 5. This time out period is between the entry of fingerprints, since as seen in step 352 and 360, it is checked whether all fingerprints are inputted, and if not, requesting/ entering another fingerprint, of steps 354-356. Therefore, the time out period is of one fingerprint to another. Since the requesting of fingerprints occurs between each inputted fingerprint, the time period is of one another. Therefore, Abrahams discloses all the claimed elements and the rejection follows below.
4. *The applicant further argues that the other prior art does not cure the deficiencies of Abrahams.*
5. Since there are no deficiencies to cure, as explained above, prior art applies.

Specification

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 2, 6, 7, 11, 14 and 15 are rejected under 35 U.S.C. 102(e) as being unpatentable by U.S. Patent 6944773 (Abrahams).
8. Regarding claim 7, Abrahams discloses an apparatus for authenticating a user (fig. 1), the apparatus comprising a fingerprint sensor operable to sensing only one fingerprint at a time (fig. 1, items 122, 126, 130), and a processor (fig. 1, item 104, 108, 110, 112) and a database (fig. 1, item 106) adapted to perform a the method comprising: a. placing each of a plurality of parts of the user's body, fingers when a computer requests the fingerprints in the loop shown in fig. 5 (fig. 5, step 354, request, 356, reads FP, 352, orders another FP to be read) on a biometric contact sensor at a sensing position (col. 3, lines 30-35); b. obtaining from the sensor the entered fingerprint images, the parts of the image being the biometric contact characteristics, and the full image being the data set, for each of the plurality of body parts (fig. 5, step 356); c. comparing each data set with authentic versions, corresponding fingerprints on file, (fig. 5, step 362) stored in a database (fig. 1 item 106); d. determining whether each of the plurality of parts of the user's body are placed on the biometric contact sensor at a sensing position within a predetermined period of time of one another, by finding if each successive fingerprint is placed within the time-out period (col. 6, lines 4-14); e. determining whether the plurality of parts of the user's body were placed on the

biometric contact sensor at the sensing position in a sequence if it is determined that the data sets satisfactorily match the corresponding authentic versions and the plurality of parts of the user's body are placed on the biometric sensor within the predetermined period of time of one another, since if it is determined that the data sets match (fig. 5, step 363 and 364) it is automatically determined that the parts were placed in a sequence because the parts must be placed in sequence in order to be compared (fig. 5, step 352), and when the plurality of parts of the user's body are placed within the predetermined period of time of one another (col. 6, lines 4-14), it is also determined that the parts were placed in a sequence because if the parts weren't, then it is determined that they are not placed in a full sequence by timing out (col. 6, lines 4-14), and if the were, the parts are determined to be entered in the sequence by continuing to the comparison of fig. 5, step 362. Abrahams further discloses the sequence randomly changes after each authentication of the identity of the user, since the fingerprint is chosen by random at each authentication (fig. 5, step 354); and f. issuing an authentication signal when it is determined that the plurality of parts of the user's body are placed on the biometric contact sensor at the sensing position in the sequence (fig. 5, step 366).

9. Claim 1 is rejected for the same reasons as claim 7. Thus, the arguments analogous to that presented above for claim 7 are equally applicable to claim 1. Claim 1 distinguishes from claim 7 only in that claim 1 is a methods claim and claim 7 is an apparatus. An apparatus carries out a method, therefore, prior art applies.

10. Regarding claim 2, Abrahams discloses the body parts are the user's fingertips, since fingerprints are obtained from fingertips (fig. 5, step 354) and the biometric contact sensor is a fingerprint sensor (col. 3, lines 30-35).

11. Regarding claim 6, Abrahams discloses that the data sets are compared with the authentic versions using a correlation based algorithm since the fingerprints are correlated in the algorithm carried out in fig. 4, step 362.

12. Regarding claim 11, Abrahams discloses the apparatus further comprises a data input device (fig. 1, keyboards or any other input device shown in fig. 1).

13. Regarding claim 14, Abrahams discloses a method (fig. 5) of authenticating the identity of a user, the method comprising: a. obtaining a sequence of data sets/ images of biometric characteristics/ fingerprints of the user, the sequence provided in the process loop of fig. 5, steps 352-360 each data set relating to one of a plurality of parts of the user's body, a finger (fig. 5, step 354); b. comparing each data set with authentic versions stored in a database (fig. 5, step 362); c. monitoring the order in which the sequence of data sets was obtained by monitoring the amount of inputs and monitoring the user's input of the fingerprint (fig. 5, step 352 and 354); d. determining whether the data sets are obtained within a predetermined period of time of one another by determining that each data set input is obtained within a time-out period (col. 6, lines 5-10); e. determining whether the sequence of data sets are in a specified order if it is determined that the data sets satisfactorily match the corresponding authentic versions by finding if the fingerprints match, and thus the correct fingerprint was input in the order specified (fig. 5, step 362) and the data sets are obtained within the predetermined

period of time of one another by determining that the inputs have been entered before time-out and thus the specified order has been input by the user (col. 6, lines 5-10), wherein the specified order changes after each authentication of the identity of the user since the fingerprints are chosen at random each time the authentication occurs (fig. 5, step 354); and f. issuing an authentication signal when it is determined that the sequence of the data sets are in the specified order (fig. 5, step 355, 364).

14. Regarding claim 15, Abrahams discloses at least one of the plurality of parts of the user's body is a fingertip, since fingerprints come from fingertips (fig. 5, step 354).

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 5, 8, 9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abrahams in view of U.S. Patent No 6393139 (Lin et al).

17. Regarding claim 5, Abrahams discloses all of the claimed elements as set forth above and incorporated herein by reference. Abrahams does not disclose expressly that the data sets are compared with the authentic versions using a minutiae based algorithm.

Lin et al discloses data sets are compared with the authentic versions using a minutiae based algorithm (col. 6, line 23).

Abrahams and Lin et al are combinable because they are from the same field of endeavor, i.e. fingerprint authentication.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a minutiae based algorithm.

The suggestion/motivation for doing so would have been to provide a simple, well known and easy way to match fingerprints, and thus create a more robust method.

Therefore, it would have been obvious to combine the method of Abrahams with the minutia matching of Lin et al to obtain the invention as specified in claim 5.

18. Regarding claim 8, Lin et al discloses that many fingerprint sensors are capacitive sensors (col. 1, lines 35-43).

19. Regarding claim 9, Lin et al discloses that many fingerprint sensors are optical sensors (col. 1, line 19).

20. Regarding claim 17, Lin et al discloses in a multiple input device, at least one of the plurality of parts of the user's body is the user's face (col. 5, lines 28-31).

21. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Abrahams, as applied to claim 7 above, and further in view of U.S. Patent No. 5864296 (Upton).

Abrahams discloses all of the claimed elements as set forth above and incorporated herein by reference.

Abrahams does not disclose expressly the fingerprint sensor is a thermal sensor.

Upton discloses that many fingerprint sensors are thermal (col. 1, lines 35-36).

Abrahams and Upton are combinable because they are from the same field of endeavor, i.e. fingerprint recognition.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a thermal sensor.

The suggestion/motivation for doing so would have been to provide a more flexible system by providing a different ways of sensing the fingerprint, such as imaging fingerprints in the dark.

Therefore, it would have been obvious to combine the apparatus of Abrahams with the thermal sensor of Upton to obtain the invention as specified in claim 10.

22. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Abrahams, as applied to claim 11 above, and further in view of U.S. Patent No. 5594806 (Colbert).

Regarding claim 12, Abrahams discloses all of the claimed elements as set forth above and incorporated herein by reference.

Abrahams does not disclose expressly the data input device is a keypad.

Colbert discloses a data input device is a keypad (col. 6, line 58).

Abrahams and Colbert are combinable because they are from the same field of endeavor, i.e. verification systems.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide an input keypad.

The suggestion/motivation for doing so would have been to provide a more accurate/user-friendly system by allowing the user to access data and indicated information by providing a simple means to indicate the user's preferences.

Therefore, it would have been obvious to combine the apparatus of Abrahams with the keypad of Colbert to obtain the invention as specified in claim 12.

23. Claims 13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abrahams in view of U.S. Patent Application Publication No. 20030026462 (Chung et al).

Regarding claim 13, Abrahams discloses all of the claimed elements as set forth above and incorporated herein by reference.

Abrahams does not disclose expressly that one a data input device is a smart card reader.

Regarding claim 13, Chung et al discloses that the data input device is a smart card reader (page 7, paragraph 70).

Abrahams and Chung et al are combinable because they are from the same field of endeavor, i.e. authentication.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have a smart card reader.

The suggestion/motivation for doing so would have been to provide a more flexible, robust apparatus by allowing several different functionalities/ inputs of the

apparatus, and to allow a faster system by storing information on a smart card instead of the system.

Therefore, it would have been obvious to combine the apparatus of Abrahams with the smart card reader of Chung et al to obtain the invention as specified in claim 13.

24. Regarding claim 16, Chung et al discloses that one of the parts of the body that can be used as a biometric characteristic in a multiple input arrangement is the retina (page 3, paragraph 33.)

Conclusion

25. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KATHLEEN S. YUAN whose telephone number is

(571)272-2902. The examiner can normally be reached on Monday to Thursdays, 9 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571)272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kathleen S Yuan/
Examiner, Art Unit 2624
1/10/2011